

CLAIMS

What is claimed is:

1. In a robot for performing predetermined operations under direction of a controller, the improvement comprising:

equipping the robot with a plurality of manipulatable arms, with at least two of the plurality of arms performing like operations and at least two of the plurality of arms having different lengths.

2. The improvement of claim 1 wherein the like operations comprise paint application.

3. The improvement of claim 1 wherein each of the plurality of arms are positioned in a common plane.

4. The improvement of claim 3 wherein the common plane is a vertical plane.

5. In a robotic system for performing predetermined operations under direction of a controller, the improvement comprising:

clustering a plurality of single manipulator arm robots such that each of the plurality is coupled to a common mounting stand, with at least two of the plurality of arms having different lengths.

6. In a paint finishing booth having a paint application zone, an arrangement of paint application robots comprising:

a robot cluster comprising a plurality of commonly controlled robots, each equipped with a single manipulator arm and each mounted to a different surface of a common mounting stand, and each arm equipped with at least a paint application device and positioned within the paint application zone for applying paint at a first side of a workpiece being transported through the application zone.

7. The arrangement of claim 6 wherein all the manipulator arms lie substantially in a single plane.

8. The arrangement of claim 7 wherein the single plane extends substantially vertically within the paint application zone.

9. The arrangement of claim 6 wherein the cluster comprises a single robot base equipped with the plurality of manipulator arms.

10. In a robotic system for performing predetermined operations under direction of a controller, the improvement comprising:

clustering a plurality of single manipulator arm robots such that at least two bases of the robots extend in different directions toward a mounting end of their respective manipulator arms.

11. In a robotic system for performing predetermined operations under direction of a controller, the improvement comprising:

clustering a plurality of single manipulator arm robots such that a separation distance between attachment points of robot arms of any two of the robots is less than twice a length of a longest arm segment in the cluster.

12. In a robotic system for performing predetermined operations under direction of a controller, the system comprising:

clustering a plurality of single manipulator arm robots such that each of the plurality is coupled to a common mounting stand, with at least two of the plurality of arms performing like operations and with at least two of the plurality of arms having different lengths.

13. The system of claim 12 wherein the like operations comprise paint application.